

NC - 001

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PAW - (NITL ) NITTO DENKO CORP

TI - Low surface resistanc transfer material for electrophotography -  
comprises dielectric layer and porous PTFE layer contg. conductive  
polymer, laminated on plastic layer

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A - [001] 014 04- 040 062 064 087 143 151 153 155 156 157 158 175 185 190  
191 225 231 273 316 332 357 397 398 402 408 409 414 431 436 443 455  
477 489 506 507 509 546 575 58& 595 596 658 659 674 688 720 725 726  
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1990 2318 2386 2393 2427 2430 2437 2458 2504 2507 2534 2549 2551 2653  
2654 2718 2726 2808 3194  
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XIC - C08G-073/00 ; C08J-005/18 ; G03G-007/00  
XP - N1993-104763  
AB - J05072791 Material comprises a dielectric layer and a porous PTFE layer laminated on a plastic layer. The PTFE layer contains a conductive polymer fixed in the fine holes.  
- The conductive polymer is pref. polyaniline, polythiophene having substituents at the 3-position, polypyrrole having a substituent at the 3-position, polythiophene having a substituent at the 3- and 4-position and/or polypyrrole having a substituent at the 3- and 4-position.  
- The PTFE porous material has a thickness of 10-300 microns, pore rate of 30-80% and dia. of the fine pore of 0.2-30 microns.  
- ADVANTAGE - The transfer material has low surface resistance.  
- In an example, an aq. dispersion of polyfluorovinylene was applied on the peripheral surface of a polycarbonate tube of 40mm outside dia. and 50 microns thick and heated at 80 deg.C for 30 minutes. The coating and the drying were repeated 12 times to obtain a dielectric layer of 100 microns thick. A PTFE tube of 41mm outside dia. and 50 microns thick was fitted on the dielectric layer, treated by sputtering in Ar gas at 0.00005 Torr at 0.2 Watt/cm<sup>2</sup> for 50 secs. and then heated at 200 deg.C for 1 minute to connect both tubes.  
N-methyl-2-pyrrolidone soln. contg. 1 wt.% of a dedoped polyaniline and 1.1 wt.% of p-toluene sulphonic acid monohydrate was applied on the peripheral surface of the porous tube and dried at 100 deg.C for 2 minutes. The amt. of the polyaniline fixed was 1.5 g/m<sup>2</sup>. The tube-like material was cut in a circular form to obtain a belt form transfer component for electrophotography. (Dwg.0/0)  
IW - LOW SURFACE RESISTANCE TRANSFER MATERIAL ELECTROPHOTOGRAPHIC COMPRISE DIELECTRIC LAYER POROUS PTFE LAYER CONTAIN CONDUCTING POLYMER LAMINATE PLASTIC LAYER  
IKW - LOW SURFACE RESISTANCE TRANSFER MATERIAL ELECTROPHOTOGRAPHIC COMPRISE DIELECTRIC LAYER POROUS PTFE LAYER CONTAIN CONDUCTING POLYMER LAMINATE PLASTIC LAYER

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